

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 September 2005 (22.09.2005)

PCT

(10) International Publication Number
WO 2005/088503 A1

(51) International Patent Classification⁷: **G06F 17/60**,
159/00, 12/14

(21) International Application Number:
PCT/NZ2005/000048

(22) International Filing Date: 17 March 2005 (17.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
531824 17 March 2004 (17.03.2004) NZ

(71) Applicant (for all designated States except US): **CARSHA COMPANY LIMITED** [NZ/NZ]; 161 Kennedy Road, Albany R D 2, AUCKLAND (NZ).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WEBSTER, Mitch** [ZA/NZ]; 161 Kennedy Road, Albany R D 2, AUCKLAND (NZ). **HORLACHER, Oliver** [NZ/NZ]; 7/10 Tagalad Road, Mission Bay, AUCKLAND (NZ).

(74) Agents: **ADAMS, Matthew, D** et al.; A J Park, 6th Floor Huddart Parker Building, PO Box 949, Wellington, 6015 (NZ).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: METHODS FOR PROCESSING GENOMIC INFORMATION AND USES THEREOF

A

Randomise the list



Number list



Separate the datasets of
gene names and gene
annotation information.

B

Annotation

Name	Chromosome	Copies	Start	Stop
CYP2D6	3	1	56	1065
ACO1	5	1	7865	8763
HIA1	12	1	12	2000
ABCA6	x	1	5748	6003



Annotation

	Name	Chromosome	Copies	Start	Stop
1	CYP2D6	3	1	56	1065
2	ACO1	5	1	7865	8763
3	HIA1	12	1	12	2000
4	ABCA6	x	1	5748	6003



Gene names

1	CYP2D6
2	ACO1
3	HIA1
4	ABCA6

Gene data

1	3, 1, 56, 1065
2	5, 1, 7865, 8763
3	12, 1, 12, 2000
4	x, 1, 5748, 6003

(57) Abstract: Methods for processing and storing genomic information in a secure manner are described. In particular, methods for processing, splitting and storing genomic information or portions thereof are disclosed. An individual's genomic information is digitized and a splitting algorithm applied to fragment and randomise the digitized genomic information into at least two separate datasets. Access to at least one dataset is retained by the individual and the second dataset is stored on a central server as a secure database record. Each dataset in isolation presents uninformative data and it is only when all datasets are combined that the data is capable of being presented into a useable and informative format.



(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*